

REMARKS

A total of 36 claims remain in the present application. The following comments are presented in response to the Office Action mailed March 7, 2006, wherefore reconsideration of this application is requested. Referring to the text of the Office Action:

- claims 1, 3-5, 8, 12-14, 17, 19-21, 24, 26-28, 30, 32-34 and 37 stand rejected under 35 U.S.C. § 102(e), as being unpatentable over the teaching of United States Patent Application Publication No. 2002/0149823 (Bergano et al.);
- claim 9 stands rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent Application Publication No. 2002/0149823 (Bergano et al.) in view of United States Patent Application Publication No. 2001/052973 (Marro et al.);
- claim 10 stands rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent Application Publication No. 2002/0149823 (Bergano et al.) in view of United States Patent Application Publication No. 2001/052973 (Marro et al.), and further in view of Applicant's allegedly admitted prior art at paragraphs 36 and 38 of the specification;
- claims 11, 22, 23 and 31 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent Application Publication No. 2002/0149823 (Bergano et al.) in view of Applicant's allegedly admitted prior art at paragraphs 36 and 38 of the specification; and
- claims 6, 7, 15, 16, 18, 29, 35, 36 and 38 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, applicant appreciates the Examiner's indication of allowable subject matter in claims 6, 7, 15, 16, 18, 29, 35, 36 and 38. The Examiners claim rejections

under 35 U.S.C. §§102(e) and 103(a) are believed to be traversed in view of the following discussion.

The Examiner's claim rejections under 35 U.S.C. §102(e) and §103(a) are believed to be traversed by the above-noted claim amendments, and further in view of the following discussion.

Claim rejections under 35 U.S.C. §102(e)

At paragraph 8 of the detailed action, the Examiner argues that "... the amplitude detection at the receiver for comparison with the transmit signal is effectively detection of one of the two polarization states at any given time. Therefore, ... the detected signal does contain information about polarization angle, in light of the corresponding polarization angle of the transmit signal. If the level of the receive signal is less than the transmit level for a window of time corresponding to a transmitted P1 state, this is information that loss has been experienced at the P1 state. After similar information is acquired for the P2 state, a determination of PDL can be made." Applicant respectfully disagrees.

As to the detected signal allegedly containing information about polarization angle, the person of ordinary skill in the art will recognise that this is not possible with the apparatus of Bergano et al. A photodetector merely detects optical power. At best, the received signal 407 will provide information of the respective optical power levels of each polarization, at the receiver. However, it will not contain any information with respect to the polarization angle of light arriving at the receiver.

As to the Examiner's proposal that "If the level of the receive signal is less than the transmit level for a window of time corresponding to a transmitted P1 state, this is information that loss has been experienced at the P1 state", Applicant notes that Bergano et al provide no methods or techniques by which such a determination might be accomplished. More particularly, Bergano et al do not teach or suggest any means of correlating the receive signal 407 to the transmitted optical signal, so it is not possible for the system of Bergano et al to identify whether the signal level at any particular instant corresponds to a transmitted P1 state,

or a transmitted P2 state. In the absence of such correlation, it is not possible to compare transmitted and received power levels, as suggested by the Examiner, and Bergano et al do not teach or suggest performing any such comparison.

As to the Examiner's proposal that "After similar information is acquired for the P2 state, a determination of PDL can be made", Applicant respectfully notes that Bergano et al explicitly teach that PDL is directly determined from the modulation amplitude of the receive signal 407, at the polarization modulation frequency,  $f_{pol}$ . Bergano et al do not attempt to determine differences between transmitted and received power levels of each polarization, as proposed by the Examiner, and further do not attempt to use this information to determine PDL, as proposed by the Examiner. Whether or not PDL could be determined in the manner proposed by the Examiner is moot, because Bergano et al provide no teaching of any such operation. In fact, the person of ordinary skill in the art will recognise that Bergano et al teach directly away from the Examiner's proposed method of determining PDL.

As noted above, Bergano et al do not teach a step of detecting the polarization state of the received optical signal. It follows, therefore, that Bergano et al do not teach a step of evaluating the PDL using the predetermined initial polarization state and the detected polarization state. In fact, Bergano et al teach directly away from the solution of the present invention, by teaching that PMD (and PDL) are estimated by comparing changes in the PMD (and PDL) produced by inserting different optical reference elements 222 into the optical signal path at the transmitter. See FIGs. 2 and 7, and paragraphs 0044 and 0045.

In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of United States Patent Application Publication No. 2002/0149823 (Bergano et al.).

Rejections under 35 U.S.C. §103(a)

As noted above, Bergano et al fail to teach all of the elements of independent claims 1, 19 and 24. None of the other known prior art provides the missing teaching. Accordingly, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the

teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,



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